Claims

1. A process of reducing the concentration of SOx in a SOx-containing gas, said process comprising treating said SOx-containing gas with an effective amount of particulate petroleum coke at an effective SOx removal temperature of reduced SOx concentration to produce a treated gas; and removing said treated gas.

2. A process as defined in claim 1 wherein said petroleum coke is a fluid coke.

3. A process as defined in claim 1 wherein said effective temperature is selected from 600° - 1000°C.

4. A process as defined in claim 1 wherein said SOx concentration is at least 1% v/v in said SOx-containing gas.

5. A process as defined in claim 4 wherein said SOx-containing gas is a flue gas.

6. A process as defined in claim 4 wherein said SOx-containing gas is a smelter gas.

7. A process as defined in claim 1 wherein said SOx-containing gas further comprises NOx species, and said effective SOx removal temperature is also a NOx species removal temperature.

8. A process as defined in claim 1 wherein said SOx-containing gas further comprises metal species, and said SOx removal temperature is also a metal species removal temperature.

9. A process as defined in claim 8 wherein said metal is mercury.

10. A process for the production of activated carbon from particulate petroleum coke, said process comprising treating said petroleum coke with an effective amount of a SOx-containing gas at an effective temperature to effect reduction of said SOx concentration in said gas to produce a treated gas of reduced SOx concentration as defined in claim 1 and said activated coke; and collecting said activated coke.

11. A process for the production of elemental sulphur from a SOx-containing gas and particulate petroleum coke, said process comprising treating said petroleum coke with an effective amount of a SOx-containing gas at an effective temperature to effect reduction of said SOx concentration in said gas to produce a treated gas of reduced SOx concentration according to claim 1, said activated carbon and said elemental sulphur; and collecting said activated carbon and said elemental sulphur.

12. A process for recovering the heat of reaction in a process as defined in claim 1 further comprising

(a) reacting a feed SOx-containing gas with a petroleum coke at an effective SOx-reducing temperature to produce an effluent gaseous mixture, at a temperature of greater than 600°C, comprising S and of a reduced SOx concentration relative to said feed gas.;

(b) passing said effluent gas to heat exchange means comprising a transfer fluid to effect heat transfer to said transfer fluid to produce a hotter transfer fluid and cool said gas to a temperature below 200°C; and

(c) collecting said S and said hotter transfer fluid.